CLAIMS

1. A mutant α-amylase which is derived from an α-amylase having an amino acid sequence represented by SEQ ID No. 1 or showing at least 60% homology thereto by substitution or deletion of at least one amino acid residue corresponding to any one of Pro_{18}, Gln_{86}, Glu_{130}, Asn_{154}, Arg_{171}, Ala_{186}, Glu_{212}, Val_{222}, Tyr_{243}, Pro_{260}, Lys_{269}, Glu_{276}, Asn_{277}, Arg_{310}, Glu_{360}, Gln_{391}, Trp_{439}, Lys_{444}, Asn_{471} and Gly_{476} of the amino acid sequence.

2. A mutant α-amylase derived from an α-amylase having an amino acid sequence represented by SEQ ID No. 2 or showing at least 60% homology thereto by substitution or deletion of at least one amino acid residue corresponding to any one of Asp_{128}, Gly_{140}, Ser_{144}, Arg_{168}, Asn_{181}, Glu_{207}, Phe_{272}, Ser_{375}, Trp_{434} and Glu_{466} of the amino acid sequence.

3. A mutant α-amylase according to claim 1, wherein the substitution or deletion of at least one amino acid residue is substitution of the amino acid residue corresponding to Pro_{18} with Ser or Thr, the amino acid residue corresponding to Gln_{86} with Glu, the amino acid residue corresponding to Glu_{130} with Val or Gln, the amino acid residue corresponding to Asn_{154} with Asp, the amino acid residue corresponding to Arg_{171} with Cys or Gln, the amino acid residue corresponding to Ala_{186} with Val or Asn, the amino acid residue corresponding to Glu_{212} with Asp, the

amino acid residue corresponding to Val_{222} with Glu, the amino acid residue corresponding to Tyr_{243} with Cys or Ser, the amino acid residue corresponding to Pro_{260} with Glu, the amino acid residue corresponding to Lys_{269} with Gln, the amino acid residue corresponding to Glu_{276} with His, the amino acid residue corresponding to Asn_{277} with Ser or Phe, the amino acid residue corresponding to Arg_{310} with Ala, the amino acid residue corresponding to Glu_{360} with Gln, the amino acid residue corresponding to Gln_{391} with Glu, the amino acid residue corresponding to Trp_{439} with Arg, the amino acid residue corresponding to Lys_{444} with Arg, the amino acid residue corresponding to Asn_{471} with Asp or Glu, or the amino acid residue corresponding to Gly_{476} with Asp;

4. A mutant α-amylase according to claim 2, wherein the substitution or deletion of at least one amino acid residue is substitution of the amino acid residue corresponding to Asp_{128} with Val or Gln, the amino acid residue corresponding to Gly_{140} with Ser, the amino acid residue corresponding to Ser_{144} with Pro, the amino acid residue corresponding to Arg_{168} with Gln, the amino acid residue corresponding to Gln_{181} with Val, the amino acid residue corresponding to Glu_{270} with Asp, the amino acid residue corresponding to Phe_{272} with Ser, the amino acid residue corresponding to Ser_{375} with Pro, the amino acid residue corresponding to Trp_{434} with Arg or the amino acid

residue corresponding to Glu_{466} with Asp.

5. A gene encoding a mutant α-amylase as claimed in any one of claims 1 to 4, or a vector containing said gene.

6. A cell transformed by a vector as claimed in claim 5.

7. A method for producing a mutant α-amylase, which comprises cultivating a transformant cell as claimed in claim 6.

8. A detergent composition comprising a mutant α-amylase as claimed in any one of claims 1 to 4.